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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/747,601	12/29/2003	Dong Yeal Keum	20063/OG03-044	6479

34431 7590 03/22/2006

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EXAMINER	
JEFFERSON, QUOVAUNDA	

ART UNIT	PAPER NUMBER
2823	

DATE MAILED: 03/22/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

B/C

Office Action Summary	Application No.	Applicant(s)	
	10/747,601	KEUM, DONG YEAL	
	Examiner	Art Unit	
	Quovaunda Jefferson	2823	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *21 February 2006*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1 and 2* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1 and 2* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date 3/2004
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Priority

Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Response to Arguments

Applicant's arguments, see page 2 of Remarks, filed 21st of February, with respect to the rejection(s) of claim(s) 1 under 35 USC 103(a) have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground(s) of rejection is made in view of new prior art.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claim 1 is rejected under 35 U.S.C. 103(a) as being unpatentable over Huang-Lu et al, US Patent Application Publication 2001/0044191 and Hong et al, US Patent 5,614,746 See Huang-Lu and Hong figures below.

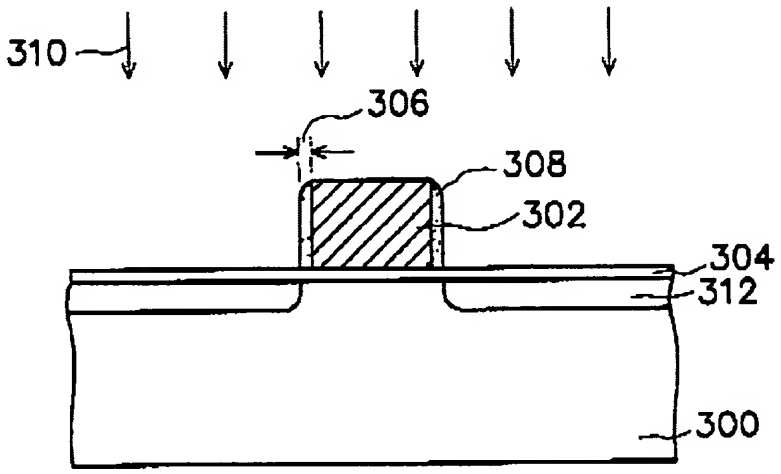

FIG. 3B

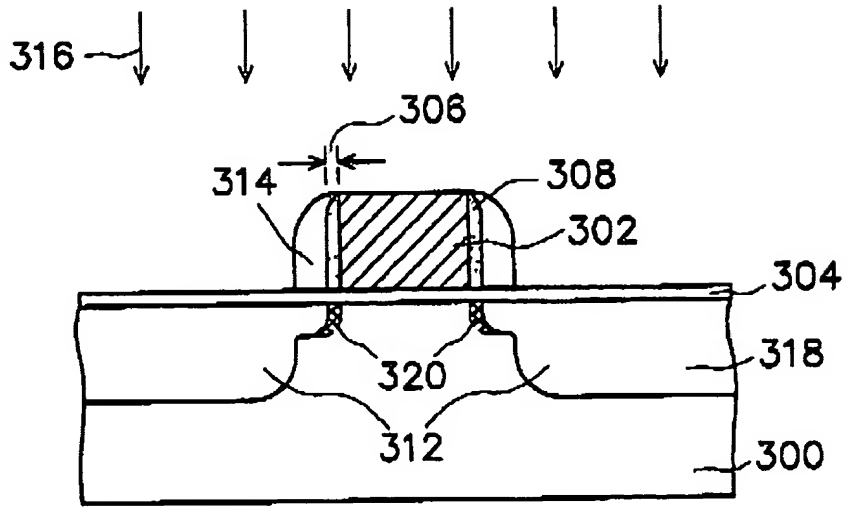

FIG. 3D

HUANG-LU FIGURES

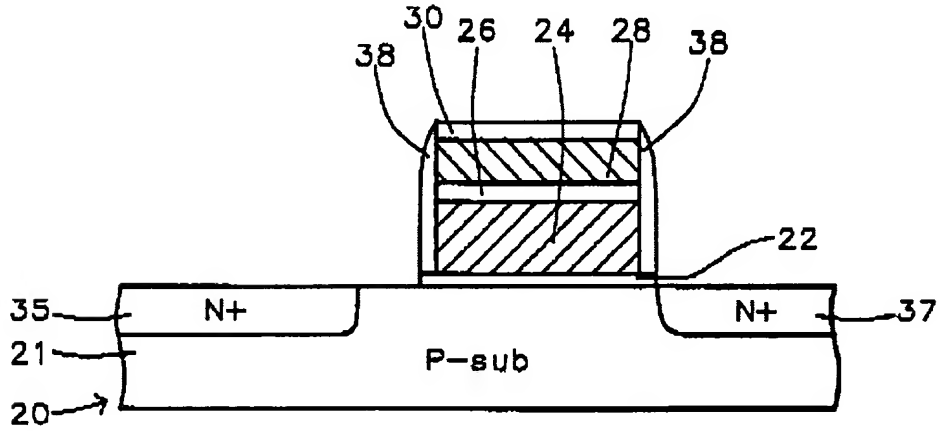

FIG. 3E

HONG FIGURE

Regarding claim 1, Huang-Lu teaches a method for fabricating a transistor comprising of forming a gate electrode **302** on a semiconductor substrate **300**, forming a first preliminary source/drain region and a pocket junction region **312** through a first ion implantation process **310** using the gate electrode as a mask, the pocket junction region being formed under the first preliminary source/drain region, forming a first oxide layer on the substrate including the gate electrode, forming a nitride layer **302** with on the first oxide layer **304**, forming a second oxide layer (layer that forms **314**) over the nitride layer, forming spacers **314** on sidewalls of the gate electrode, forming a second preliminary source/drain region through a second ion implantation **316** process using the spacers as a mask (Figure 3D), and diffusing substantially all of the implanted ions in a horizontal direction of the substrate by performing a thermal treatment process for the resulting substrate [0010].

Huang-Lu fails to teach forming a first oxide layer on the substrate including the gate electrode and removing the nitride layer and the first oxide layer on the surface of the substrate. Hong teaches forming a first oxide layer on the substrate including the gate electrode (Hong teaches an oxide-nitride-oxide spacer, which is constructed by forming a first oxide layer, a nitride layer over the first oxide and a second oxide layer over the nitride layer to form a ONO layer **38**, columns 5 and 6) and removing the nitride layer and the first oxide layer on the surface of the substrate (Figure 3E-The ONO layer is etched off the substrate to form the spacers). It would be obvious to one

skilled in the art to combine the teachings of Hong with that of Huang-Lu because a method is provided for fabricating a split gate flash EPROM device (Hong, abstract).

Claim 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over Huang-Lu and Hong as applied to claim 1 above, and further in view of Xiang et al, US Patent 6,555,439. While Huang-Lu and Hong fail to teach the method as defined by claim 1, further comprising performing a thermal treatment process prior to the removal of the nitride layer and the first oxide layer, Xiang teaches comprising performing a thermal treatment process prior to the removal of the nitride layer and the first oxide layer (column 5, lines 31-36). It would have been obvious to one skilled in the art to combine the teachings of Xiang with that of Huang-Lu and Hong because annealing is conducted to activate source/drain extensions and to recrystallize extensions (Xiang, column 5, lines 31-33).

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. US Patent 5,208,472, issued to Su et al, disclosed a method of forming a self-aligned metal oxide semiconductor device structure.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Quovaunda Jefferson whose telephone number is 571-272-5051. The examiner can normally be reached on Monday through Friday, 8AM to 4:30PM EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Matthew Smith can be reached on 571-272-1907. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

qvj

W. DAVID COLEMAN
PRIMARY EXAMINER